

A NEW SPECIES OF GENUS *SULCICNEPHIA* FROM CHINA (DIPTERA, SIMULIIDAE)

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Abstract The present paper describes a new species of *Sulcinephia* (Diptera: Simuliidae), *Sulcinephia brevinekoi* sp. nov., from Qinghai, China. A check list of Chinese species of the genus is given.

Key words Simuliidae, *Sulcinephia*, list new species, China

The genus *Sulcinephia* of Simuliidae was first defined by Rubtsov (1971), which was placed in tribe Prosimuliini and was later moved to tribe Simuliini by Adler and Crosskey (2008). So far 21 known species of this genus are known around the world (Crosskey and Howard 1997, Adler and Crosskey 2008), and 5 of them were reported from China (Chen and An 2003). In this paper, a new species is described on the basis of the reared adult, pupal and larval specimens collected from Qinghai, China. The type specimens are deposited in the Department of Biology, Guiyang Medical University.

1 List of Chinese Species of the Genus *Sulcinephia* Rubtsov 1971

1) *Sulcinephia brevinekoi* sp. nov. (♀, ♂, P. L.)

Distribution: China (Qinghai type locality).

2) *Cnephia flavipes* (Chen, 1984)

Chen, 1984: 387 (♂, P. L.). Chen and An 2003: 69-70 (♂, P. L.).

Distribution: China (Type locality: Inner Mongolia).

3) *Neuermannia jeholensis* (Takahasi 1942)

Takahasi 1942: 37 (♀, ♂, P. L.). Chen and An 2003: 70-72 (♀, ♂, P. L.).

Distribution: China (Type locality: Hebei).

4) *Cnephia jingpengensis* Chen, 1984

Chen, 1984: 38 (P. L.). Chen and An 2003: 74-75 (P. L.).

China (Type locality: Inner Mongolia).

5) *Cnephia ovthinnikovi* Rubtsov, 1940

Rubtsov 1940: 323 (♀, ♂, P. L.). Chen and An 2003: 73-74 (♀, ♂, P. L.).

Distribution: China (Xinjiang); Kazakhstan (Type locality), Kyrgyzstan, Siberia

6) *Eusimulium undecimata* (Rubtsov 1951)

Rubtsov 1951: 757 (♀, P. L.). Chen and An 2003: 74-75 (♀, ♂, P. L.).

Distribution: China (Xinjiang); Kazakhstan (Type locality), Turkmenistan, Uzbekistan (?).

2 Description of the New Species

Sulcinephia brevinekoi sp. nov. (Figs 1-16)

Female. Body length about 2.8 mm.

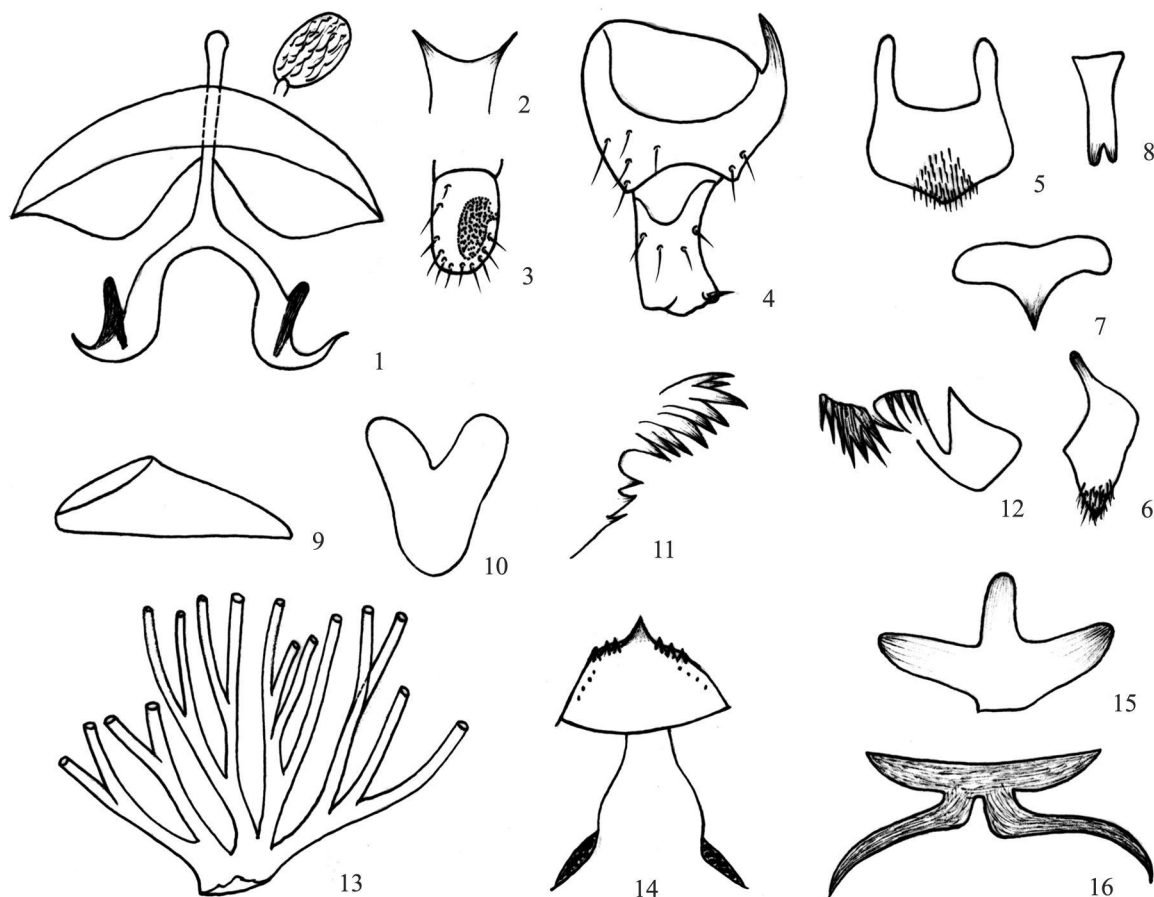
Head. Slightly narrower than thorax. Frons and clypeus black, whitish grey pruinose, covered with whitish grey. Frontal ratio 8.0: 5.1: 5.8. Frons/head ratio 8.0: 25.4. Antenna composed of 2+9 segments, brownish black except scape yellow. Maxillary palp brown, with 5 segments in proportion of 2.4: 2.1: 5.2: 5.0: 7.5; 3rd segment moderately enlarged, sensory vesicle elliptical about 0.6 length of respective segment. Maxilla with 13 inner teeth and 13 outer ones. Mandible with 12 inner teeth and 34 outer ones. Cibarium unnamed.

Thorax. Scutum brownish black, covered densely with yellowish grey as well as sparse erect black hairs on prescutellar area. Scutellum brownish black, whitish grey pruinosity with whitish grey pubescence. Postscutellum brown and bare. Pleural membrane and katipisternum bare. Legs. All coxae and trochanters brown. All femora brownish black with yellowish brown on basal 1/4. All tibiae yellow except distal 1/4 brownish black. All tarsi blackish brown except hind basitarsus distal 1/4 and basal 1/2 of 2nd tarsomere yellow. Fore basitarsus slender, about 8 times as long as wide. Hind basitarsus nearly parallel-sided, about 6.2 times as long as wide, calcpah small, pedisulcus not so developed. Claws each with large basal tooth. Wing. Costal with spinules as well as hairs. Subcosta bare. Basal portion of radius fully haired. Hair tuft at base of costa and on stem vein yellow.

Abdomen. Basal scale yellow, fringe with yellowish grey hairs. Terga dark brown, densely covered

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Figs 1-16. *Sulcinophia brevnickoi* sp. nov. 1. Female genitalia 2. Cibarium 3. Female sensory vesicle 4. Coxite and style of male 5. Ventral plate 6. Ventral plate in lateral view 7. Ventral plate in end view 8. Median sclerite 9. Cocoon 10. 10th tergite 11. Mandible of larval 12. Paramere 13. Respiratory filaments 14. Larval head in ventral view 15. Anal gill of larval 16. Larval anal sclerite

with yellowish grey hairs segment 3-6 each with pair of dark areas dorso-laterally. Genitalia Stemite 8 well sclerotized with about 20 long hairs on each side. Anterior gonapophyses of short-tongue shape in ventrolateral view, membranous covered with a few short setae, inner margins narrowly sclerotized, posteromedian corner rounded. Genital fork with slender sclerotized stem, which is with dilated end; each arm with distinct rod-like projection directed forwards and rounded projection directed posteromedially. Spermatheca ellipsoidal, well sclerotized. Paraproct and circus moderate size.

Male. Body length about 3 mm. head As wide as thorax. Upper-eye consisting of large facets in 15 vertical columns and 17 horizontal rows. Clypeus densely covered with whitish grey pubescence. Antenna composed of 2 + 9 segments. 1st flagellar segment about 1.8 times as long as the following one. Maxillary palp with 5 segments in proportional lengths of 3rd to 5th segments 4:2:4:4:9:5; sensory vesicle small about 0.18 as long as 3rd segment.

Thorax. Nearly as in female, except fore basitarsus more slender about 9 times as long as its

greatest width. hind basitarsus somewhat enlarged about 4.4 times as long as wide.

Abdomen. Basal scale brown, fringe with brownish dark hairs. Terga dark with dark hairs. Genitalia. Coxite rectangular in shape about 1.2 times as long as wide. Style is very characteristic, constricted and twisted about 0.9 times as long as that of coxite with apical spine. Ventral plate flat subquadrate, distinct produced medially on posterior margin in ventral view, setose medially; basal arms strongly sclerotized, directed or sometimes curved inwards. Parameres each with 3 strongly developed hooks as well as numerous undeveloped ones. Median sclerite plate-like and with bifid tip.

Pupa. Body length about 3 mm. Head and thorax. The integument of head and thorax brownish yellow and with tubercles all over. Head with 1 facial and 3 frontal pairs of simple trichomes. Thorax trichomes 8 pairs, all long and simple. Gill with 16 filaments arranged in (2 × 2) + (2 × 4) + (2 × 2), all filaments subequal to each other in length and thickness and much shorter than 1/2 pupal body. Abdomen. Tergum 2 with 6 single setae on each side.

1 of them much longer than others; terga 3 and 4 each with 4 hooked spines directed forwards along posterior margins; terga 5-8 bare; tergum 9 lacking terminal hooks. Sterna 6 and 7 each with a pair of bifid hooks on each side. Cocoon. Shoe-shaped with very short neck and undeveloped anterior margin, tightly woven.

Larva. Body length 5.2-5.8 mm, entirely yellow. Head spots negative. Antenna longer than stem of cephalic fan, composed of 4 segments in proportion of 4.3: 1.5: 2.1: 0.3. Cephalic fan each with 38-40 main rays. Tip of mandible with two serrations. Hypostomial setae 4 or 5 in each side. Postgenal cleft very deep, ladder-like, reaching posterior margin of hypostomium, somewhat narrowed apically and constricted posteriorly. Thoracic and abdominal integuments bare. Rectal gill lobes simple. Anal sclerite of X-formed with anterior short arms about 0.65 times as long as posterior ones. Ventral papillae developed.

Holotype ♀, reared from pupa, slide-mounted with exuvia and cocoon, in a rivulet of Gangdha, Qinghai Province, China (37° 19' N, 100° 7' E, alt 3 140 m), 6 Aug. 2006, collected by MA Yu-Long. Paratypes 16 ♂♂, 18 ♀♀, reared from pupae, 24 pupae and 9 larvae, all slide-mounted, same date as holotype. The pupae and larvae were taken from trailing grasses and leaves.

Distribution. China (Qinghai).

Remarks. This new species is closely allied to *S. flavipes* (Chen) from China, but can be readily separated from the latter by the coloration of legs, the features of style, ventral plate and median sclerite and the hind basitarsus with small calipala in the male, the cocoon with very short neck in the pupa and the number of cephalic fan rays in the larva.

Etymology. The specific name was given for its shape of pupal cocoon.

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中国蛙克蚋属分类纪要并记述一新种（双翅目，蚋科）

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摘要 中国蛙克蚋属分类纪要报告 5已知种并记述 1新种，模式标本存放于贵阳医学院生物学教研室。短颈蛙克蚋 *Sulcinophia brevinckoi* sp. nov., 新种与黄足蛙克蚋极为相似，但可根据足的着色、生殖腹板、生殖叉骨和生殖刺突特征，

关键词 蚋科，蛙克蚋属，目录，新种。

中图分类号 Q969.442.9

雄性后足基跗节附突小，蛹茧鞋状，颈极短，幼虫头扇梳状毛数量与上述近缘种相区别。

正模♀，副模 16 ♂♂，18 ♀♀，24蛹，9幼虫，2006年 8月 6日采自青海省刚察县小溪中的水草和落叶。